

## ABSTRACT OF THE DISCLOSURE

Method and apparatus for producing high purity, food grade CO<sub>2</sub> and recovering valuable BTEX fuel from hydrocarbon mixtures such as from a natural gas well. The method involves dehydrating the hydrocarbon mixture and separating the dehydrated mixture into gas and liquid phases, followed by further separation of the liquid phase to produce the BTEX fuel and condensation and distillation of the vapor phase to produce the high purity CO<sub>2</sub>. The BTEX fuel is recovered at the temperature and pressure that meets specifications for transportation and storage of gasoline, facilitating its sale to market, and the high purity CO<sub>2</sub> is produced is produced as liquid CO<sub>2</sub> for storage and transportation.

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